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THE ZOOLOGIST:

A

POPULAR MONTHLY MAGAZINE

OF

NATURAL HISTORY,

AND

JOURNAL FOR RECORDING FACTS AND ANECDOTES

RELATING TO

QUADRUPEDS, BIRDS, REPTILES, FISHES, MOLLUSKS,
INSECTS, WORMS, ZOOPHYTES, &c.

THEIR HABITS, FOOD, RETREATS, OCCASIONAL APPEARANCE,
MIGRATIONS, NESTS AND YOUNG.

No. CCLXXXVI.

LONDON:
JOHN VAN VOORST, PATERNOSTER ROW.

Price ONE SHILLING.

This day is published, price Sixpence, No. 16 of

THE ENTOMOLOGIST, containing Modern Captures of Rare Coleopterous Insects, by FREDERICK SMITH; A List of Lepidoptera captured in Persia, by ARTHUR YOUNG; Natural Situation of Stylops among Insects, by EDWARD NEWMAN; Remarks on Chortobius Typhon and C. Davus, Occurrence of Gonioctena affinis in Britain, A new locality for Micra ostrina (*Selected*); Rose-shaped Galls of the Willow, by FREDERICK SMITH; Species and Varieties, by H. VON HEINEMANN; and a Report *in extenso* of the Meetings of the Entomological Society on the 3rd of April and the 1st of May.

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SUPPLEMENT to DOUBLEDAY'S SYNONYMIC LIST of BRITISH LEPIDOPTERA.—Mr. DOUBLEDAY has prepared a complete Supplement to his 'Synonymic List,' bringing up this catalogue of indigenous Butterflies and Moths to the present time. It is stitched up with No. 14 of 'THE ENTOMOLOGIST' (price sixpence), and also with the copies of the 'Synonymic List' (price two shillings) that are yet unsold, but will not be published separately.

John Van Voorst, 1, Paternoster Row.

Notice.—My readers will scarcely fail to observe that a large portion of the present number, concluding with "Insects," p. 9641, consists of the overflowings of No. 285. I trust to be able to publish a double number early in the autumn, and thus bring up arrears.—*Edward Newman.*

Peregrine Falcon breeding on the Antrim Coast.—I have much pleasure in observing that the peregrine falcon breeds along this coast. I was present at the taking of a nest on the 24th of May: the nest was obtained by lowering a person down the rock by means of a rope; it contained three young falcons, about eight days old. The nest was composed of feathers only, and in close vicinity with jackdaws, hooded crows and swifts. The old birds hovered over our heads, uttering a most peculiar cry, but kept at a sufficient distance to defy the skill of the gunners awaiting them.—*Thomas Brunton; Glenarm Castle, Larne, County Antrim, Ireland, June* 6, 1865.

Hobby feeding on Beetles.—On the 24th of May, at Mappowder, Dorsetshire, I obtained a fine male hobby, in the flesh. On opening the maw, after skinning it, I found the remains of insects solely. A female kestrel, examined the same day, contained a longtailed field mouse.—*W. Jesse, jun.; Maisonette, Ingatestone, Essex, June* 8, 1865.

Note on the Kestrel.—If you look at a kestrel when in the act of hovering you will observe that the wings are expanded to their full extent, the tail is spread and bent slightly downwards, the head is also bent a little downwards, so that the head and body with the tail form a kind of arch: this position, together with the power it possesses of inflating itself, enables it to poise almost motionless in the air for several seconds together. It is not perhaps generally known that the kestrel while hovering has its bill wide open, and its throat and breast perceptibly distended: I have good opportunities of observing this in a tame kestrel, which lives in an aviary, into which one of the windows of my drawing-room opens. I have frequently seen her hovering in the aviary, as if for the sake of practising her powers, and as she is very tame and sociable, and thinks it a great privilege to be allowed to come into the dining-room, she is sometimes permitted to do so: on one occasion, a short time since, after hovering for a second or two over the table, she made a sudden swoop into the plate of one of my children and carried off the leg of a rabbit, which she bore in triumph into a corner, where she devoured it at her leisure.—*H. T. M. Kirby; Mayfield Vicarage, Sussex, May* 19, 1865.

Remarkable Preservation of Robin's Eggs.—Early in April a young neighbour brought me a nest containing three out of four eggs, which he had found in a sheltered situation. Surprised to find eggs so dirty, rather than at eggs at all in an old nest, the lad examined the contents of one, which proved to be completely dried up. Considering that they must have lain here, at least, since June of last year, or possibly of the previous one, their comparative freshness of colouring is remarkable: when freshly-laid they must have been more richly coloured than usual, the blotches of red-brown being larger than I ever noticed in this species, although the neighbourhood is peculiarly rich in varieties of robin's eggs.—*H. Ecroyd Smith; Egremont, Birkenhead.*

Singular Position of a Robin's Nest.—A young friend of mine the other day was crossing a small piece of waste ground near his residence, when, tripped up by a branch of gorse, his foot came in contact with a broken and discarded flower-pot, whence, on the instant, out flew a robin. Inside was found its nest containing six eggs, and, the

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mouth of the pot being turned towards a large gorse-bush, a sheltered entrance was secured, and in the opposite hole a capital eyelet for all approaching intruders during incubation.—*H. Ecroyd Smith.*

Early Nesting of the Longtailed Tit.—Although known as a resident in some of our more sheltered woods, this species is but seldom seen, and the nest has very rarely been taken in this marine locality. I was consequently agreeably surprised, after so severe and late a winter as we have experienced, to find, on the 2nd of April, the exquisite architectural curiosity, of which I herewith enclose a photograph. This nest was seen fully a dozen yards from the bush of mingled wild briar and whitethorn in which it was placed, not a single spray of which could be said to be in leaf, as the buds were only bursting, and of the branchlets encompassed by the structure several proved to be dead, thus rendering it still more difficult (from breakage) to retain the nest with its original surroundings, meagre as these were. The nest you have selected as a frontispiece to 'Birdsnesting' will not bear comparison for an instant with this one, either in contour, material, or general beauty, the gray lichens in their crisp prominence adding strikingly to their effect. To count the eggs it was necessary to turn the nest, when carefully cut from the bush, completely upside down, and then allow them to work gently out of the aperture into the hand; otherwise the entrance, only the size of a half-grown mouse, would have been strained out of shape. The eggs proved a fair average number, *viz.* nine; and mention should also be made that the bush in which the nest lay stands close to an open foot-path, thus rendering the little domicile still more a mark for observation.—*Id.*

A Rook's Nest on the Ground.—A curious case has come within my knowledge, of which the following are particulars:—This season a pair of rooks nested on the ground, in a meadow on Oakenclough Farm, in the occupation of Mr. Shirley, near to Longner, North Staffordshire. After depositing her eggs the hen sat closely on them up to Monday, the 15th inst.; but about that period rain fell heavily and flooded the part of the meadow where the nest was situated, thereby causing the rook to temporarily forsake it. When the flood subsided, she again commenced sitting on her eggs; but of course they then came to nothing, as they had become rotten in the interval.—*James Turner, in the 'Field' of May* 26, 1865.

A Rook Fishing.—As I was sculling on the river at Oxford, yesterday, I observed a somewhat singular occurrence in Natural History. I saw a rook, hovering some distance above the water, suddenly swoop down like an osprey, and emerge from the river with a small fish in his claws, and fly away with it. I am sure the bird was a rook, and not a carrion crow. Have any of your readers seen or heard of rooks catching fish?—*From the 'Field' of May* 26, 1865.

The Great Black Woodpecker.—Mr. Stevenson, with that laudable love of truth which characterizes all that he has published, has entirely demolished (Zool. 9249) the "two examples of the great black woodpecker killed in a small wood near Scole Inn, in Norfolk." They were the large spotted woodpecker, as the shooter of them states his belief. Lord Derby's specimen thus becomes the only undoubtedly British-killed example of the species. It is therefore very desirable to test the authority on which this specimen is retained. For this purpose I refer to Dr. Collingwood's 'Historical Fauna of Lancashire and Cheshire,' and find, at page 16, the following passage:—"Another and much rarer woodpecker is the great black woodpecker (*Picus martius*), concerning which not a little doubt has been experienced as to its ever having been met with in this country. Montagu, in his 'Supplement to the Ornithological

Dictionary,' says, 'Lord Stanley assures me that he shot a Picus martius in Lancashire.' Yarrell repeats this statement, and the same may be found in Latham's 'General History of Birds,' 1822, vol. iii. p. 430. Under these circumstances we might have hoped to have found the specimen in our museum. But in the edition of Latham, annotated by the late Earl of Derby, and now in the possession of the present Earl, the passage 'One was killed in Lancashire by Lord Stanley' is erased, and in the margin is written, in his lordship's own hand, '*a mistaken idea!*'" Is any reader of the 'Zoologist' in possession of information respecting other reputed British examples of this bird? if not it must share the fate of many others introduced in error. —*Edward Newman.*

Hoopoe near Ingatestone.—On the 20th of April a hoopoe was seen by Mr. Looker, gamekeeper, on Woodbarns Farm, near here, and for several days after: he tried to obtain the specimen for me, but was unsuccessful. I can perfectly rely on his statement, his knowlege of our birds and their habits being above the average.—*W. Jesse, jun.*

Hoopoe near Lowestoft.—On the 21st of April a nice mature male specimen of the hoopoe was killed near Lowestoft, in Suffolk.—*T. E. Gunn; Norwich, May* 2,1864.

Hoopoe near Lynn.—A fine specimen of this bird was shot at Walpole St. Peter's on the 25th of April, 1865.—*Edward L. King; King's Lynn, Norfolk.*

Hoopoes on Streatham Common.—A fine male hoopoe was brought me a few days ago by a friend, who had just shot it on Streatham Common: as another has been seen in the neighbourhood the poor birds were doubtless breeding. In the stomach of the one I have I found seventeen perfect skins of large larvæ and a number of the hard head-plates of others, but no remains of Coleoptera whatever. I enclose two skins of larvæ, as I took them from the stomach: I think you will be able to name the species: they were all alike.—*David Thomas Button; Park Road, Clapham, May* 27, 1865. [The skins are those of the larva of Zygæna Filipendulæ.]

Discovery of Starlings' Skulls.—Last Friday, while seeking for nests with a friend, we found a hollow elm tree, with straws protruding from a hole about ten feet from the ground, which induced me to mount and examine; the result was as follows:—I extracted *in toto* about a barrow-load of decayed organic matter, evidently the deposit of years: the principal portion of this I drew out downwards; that is, the hole I worked at was nearly at the bottom of the deposit. About eight feet above the above-mentioned hole was another one tenanted by a pair of starlings, whose nest formed the newest layer of the whole accumulation, the component parts of which were as follows:—decayed straw and sticks; comminuted decayed wood; bones and feathers of starlings, *only* forty-three starlings' skulls; remains of an old stock dove's nest; portions of starling's eggs, some almost entire, occurring at intervals in the deposit. The last thing extracted was the starling's nest, as yet unoccupied by eggs or young: the old birds were evidently very much distressed at my interference. *Query*, What does this mean? I have frequently before found the "larder" of a pair of kestrels or sparrowhawks, but the contents, as far as birds and animals went, were various; *i. e.*, sparrows, greenfinches, thrushes, mice, young rabbits and rats, &c.: the usual pellets of skin and fur are also to be found in such situations; whereas, in this instance, I found not one particle of evidence of hawk or owl, except one feather from the breast of a sparrowhawk, but this was very close to the new starling's nest, and therefore perhaps formed part of the materials brought by the starlings. Is it possible that this has been the cemetery of all the ancient and time-worn starlings of the neighbourhood?

May not starlings, like many other members of animated nature, seek to hide their weakness and coming desolation from their fellow kind, as it is a known fact that many birds and beasts bully their own sick, and indeed kill them outright, apparently to rid the world of useless lumber? I have only once found a starling dead, apparently from sickness and old age combined, and I have it now stuffed. Can any of your correspondents solve this mystery for me? I have kept the forty-three skulls and portions of the deposit, and should any correspondent wish to see them I will, with your permission, leave them at the office of the 'Zoologist.'—*W. Jesse, jun.*

Small Eggs of the Common Domestic Fowl.—A lady residing in this neighbourhood possesses a hen which has successively laid nine eggs, almost as small as those of the kingfisher, and of similar shape, but as usual devoid of yolk, the cletch being complemented by a remarkably malformed egg, three inches long and about one inch broad, which, near one end, contained a yolk, beneath which lay a hard, horny-looking substance, yellow in colour, and apparently a second but malformed yolk. The bird being of mature age, neither young nor yet old, I take the occurrence to be an uncommon one.—*H. Ecroyd Smith.*

Little Bittern near Plymouth.—Two little bitterns were seen in the neighbourhood of Plymouth on Sunday last, one of which was captured by a boy, who said he found it by the side of a small stream, entangled in a bramble-bush, and that another flew away as he came up. I examined the captured bird, and found it to be a male in adult plumage.—*John Gatcombe*; *Lower Dunford Street, Stonehouse, Devon, May* 14, 1865.

Snipe Nesting in Warwickshire.—This morning (April 19th) I saw a nest of this bird in Sutton Park, Warwickshire. It contained four eggs quite fresh. The nest was placed amongst some heather on a marshy ground adjoining one of the pools in the park, and was not at all concealed. Is it not early for the snipe to breed?—*Charles B. Hodgson.*

Plumage of the Ruff.—Mr. Rodd inquires (Zool. 9565), "How old are the male birds before they put on their full court dress?" No author, that I know of, has satisfactorily ascertained the point. Temminck remarks, "Les plumes de la fraise sont plus ou moins longues suivant les âges des mâles." But Montagu, who devoted much time and attention to the subject, seems to have thought that the ruff arrives at maturity in one year, for he remarks, "It does not appear to be the opinion of fowlers that the males are more than one season arriving at maturity. * * * The opinion, therefore, that those ruffless males are birds of a very late brood of the preceding season, is a reasonable conjecture. * * * The tail of the young birds is more brown, * * * and those with dark feathers predominating, have the darkest bills and legs. * * * We observed that those who had the ruff more or less *white*, retained that colour about the neck after the autumnal moult. * * * A young male that was taken destitute of a ruff in the breeding season, whose plumage was mostly cinereous, except about the neck and head, put on the ruff in confinement the next spring, * * * and the feathers were a *mixture* of *white* and chestnut. * * * On the 17th of May, 1806, a ruff, shot in Devon, had a *white* ruff, quite *perfect*." These remarks lead to the conclusion that the writer, as well as the fowlers referred to, may have erred in supposing that the ruff "arrives at maturity in one season." The male with the "*white* ruff, quite *perfect*," was probably an old bird, the *pure white* plumage being generally found typical or characteristic of maturity or age. The plumage being so varied in individuals of this species it might naturally be supposed that they are long in attaining their dress "de parade," were not the same diversity in colouring observable in other species, the Indian sand grouse and the Coromandel quail, for instance. See my notes in the 'Zoologist' (Zool. 5748 and 5750): the italics in the above quotation from Montagu are my own.—*Henry Hadfield; Ventnor, Isle of Wight, May* 9, 1865.

Note on the Great Northern Diver (Colymbus septentrionalis).—This bird, which, in common with the other divers, is termed by the fishermen the "sprat loon," is very common on the Colne during the winter, and since the horrid and barbarous taste has sprung up of sticking a poor bird's wing into ladies' bonnets, many more of them than usual have been killed. During the six years I have lived on the banks of the Colne, and for thirty years previously in which I have been more or less engaged in the study of birds, I have never seen the red mark on the neck of Colymbus septentrionalis in winter. The neck and breast, on the contrary, according to my experience, are always in both young and old birds pure white, without even the dusky shadows which portend the black markings in the other. I do not think that any question in ornithological history is better established than this by the concurrent testimony of modern observers. Temminck must not be quoted in favour of a contrary opinion, because he says nothing about it. Degland, however (Ornith. Europ. tome ii. p. 494), says, "Male et femelle en hiver * * * bas des joues, gorge, devant et côtes du cou, poitrine, abdomen et sous-caudales d'un blanc pur lustré." Mr. Yarrell combats the opinion of Montagu, Audubon and Dana as to the permanency of the red mark, by attributing the exceptional cases which have occurred to the accidental variation of the second moult, and I think satisfactorily sets at rest the assumption of Selby and others as to the great proportion of fifty to one of our winter visitants being *young* birds, by the remark that they only bring up two young and often only one, so that, in fact, the old ones must be more numerous than the young: therefore if the latter flocked so must the former. A most unlikely and altogether improbable assumption, but, if true, one that must settle the question at once by the number of red-marked birds which would be shot every winter. Surely the question, if it be still seriously entertained, can be easily set at rest by getting specimens of red-marked birds in winter. If Captain Hadfield will be kind enough to send me one in the flesh I shall be very much obliged to him. All the pretty screens made by Mr. Rogers in the Isle of Wight that I have seen have been made with white-breasted birds. He would hardly, I think, throw the red ones away.—*C. R. Bree; Colchester, June* 6, 1865.

Whiskered Tern on the Coast of Devon.—An adult specimen of that exceedingly rare tern Sterna leucoparia was obtained near Plymouth, a few days since. I accidentally detected it in the hands of a young birdstuffer, who had just finished setting it up, but who had not the least idea of its name or rarity. He told me that it was picked up alive on the water by some fishermen and brought on shore, but soon died, apparently from exhaustion. I secured the specimen, which is now in the collection of Mr. F. C. Hingston, of Plymouth.—*John Gatcombe.*

Arrival of Summer Birds.—The following ornithological observations were made by the members of the King's Lynn Natural History Society:—

April 15. Swallow and yellow wagtail arrived.
„ 17. Cuckoo arrived.
„ 18. Wryneck arrived.
„ 21. Whitethroat arrived.
„ 29. Sedge Warbler arrived.—*E. L. King.*

An Extraordinary Toad.—During the excavations which are being carried out under the superintendence of Mr. James Yeal, of Dyke House Quay, in connection with the Hartlepool Water Works, the workmen yesterday morning found a toad, embedded in a block of magnesium limestone, at a depth of twenty-five feet from the surface of the earth and eight feet from any spring-water vein. The block of stone had been cut by a wedge, and was being reduced by workmen when a pick split open the cavity in which the toad had been incarcerated. The cavity was no larger than its body, and presented the appearance of being a cast of it. The toad's eyes shone with unusual brilliancy, and it was full of vivacity on its liberation. It appeared, when first discovered, desirous to perform the process of respiration, but evidently experienced some difficulty, and the only sign of success consisted of a "barking" noise, which it continues invariably to make at present on being touched. The toad is in the possession of Mr. S. Horner, the president of the Natural History Society, and continues in as lively a state as when found. On a minute examination its mouth is found to be completely closed, and the barking noise it makes proceeds from its nostrils. The claws of its fore feet are turned inwards, and its hind ones are of extraordinary length and unlike the present English toad. The Rev. R. Taylor, incumbent of St. Hilda's Church, Hartlepool, who is an eminent local geologist, gives it as his opinion that the animal must be at least 6000 years old. The wonderful toad is to be placed in its primary habitation, and will be added to the collection of the Hartlepool Museum. The toad, when first released, was of a pale colour and not readily distinguished from the stone, but shortly after its colour grew darker until it became a fine olive-brown.—*Leeds Mercury, April* 8, 1865. [Communicated, with the following paragraph, by Mr. E. Birchall.]

The Immured Toad.—It is stated in the 'Sunderland Herald' that the toad, lately found by some quarrymen at Hartlepool, and announced to be 6000 years old, is not a myth. The Rev. Robert Taylor, of St. Hilda's Parsonage, states that the toad is still alive, that it has no mouth, that it was found in the centre of a block of magnesian limestone, twenty-five feet below the surface of the earth, and that it differs in many respects from all ordinary toads.

The Thresher or Fox Shark at Ventnor.—It may interest the ichthyological readers of the 'Zoologist' to hear that a fine specimen of the thresher or fox shark is now on exhibition here, and not quite dead when I saw it an hour ago. It was taken with a mackerel-net, having somehow entangled itself with the rope, and it is difficult to understand how so large a fish could be secured with such slight tackle. The total length is fifteen feet four inches, of which the tail, measuring along the inferior fin from base to tip, is seven feet. The dorsal fin one foot two inches and the pectorals two feet in length. I believe this is the first example of this species taken off the island, but some say they have been seen before. The capture was made about nine miles out.—*George Guyon; Ventnor, Isle of Wight, May* 25, 1865.

Extraordinary Abundance of Heteronereis longissima.—Early in the month of April, in the present year, my attention was drawn to the fact that an immense quantity of curious swimming worms (very much in appearance like the common

Nereis obtained in the sea-water mud deposits) had been observed in the neighbourhood of the wharves and pontoon at Milbay, Plymouth, and which were described to me as swimming about in large companies on the surface of the water. I hastened to investigate the subject myself, and obtained some of the creatures, which I carefully preserved in spirits, and Mr. J. B. Rowe, of the Plymouth Institution, has pronounced them to belong to the genus Heteronereis, the species H. longissima; the habitat, according to Johnson, being the coast of Ireland. Finding them to be so very uncommon, a few were sent to the British Museum, and the Natural History authorities there confirmed the preceding view. Their visit to Plymouth was of a very transient character, as they have now entirely disappeared, and it is this fact that induces me to draw attention to the subject, as it is not impossible that similar visits may have been paid by them to other parts of the coast without exciting attention. Their sudden disappearance is to me less extraordinary than their sudden appearance, for, although there must have been millions of them, yet they evidently formed dainty morsels for the pollack, which pursued them with great avidity. I tried them myself as bait, and caught pollack with them within a few moments of casting the line over the side of the boat. It is worthy of remark also that pollack within the last month have been unusually abundant in Plymouth Sound, as many as ten to fifteen dozen being occasionally taken by amateurs before breakfast with the ordinary pollack-flies and the silver spinner. On a calm evening the surface of the sea, in the vicinity of the breakwater, would be literally alive with pollack pursuing these Annelides, which were seen scudding about in all directions. Their length varies from four to sixteen inches, and the appearance of those which I have in my possession is not unlike that of a large Nereis, or mud-worm, divided transversely into two distinct portions, the anterior half, constituting the body, being more in shape like a flattened caterpillar, and of a pale delicate flesh-colour, whilst the posterior, forming the tail, is of a bright red, and almost identical in shape with that of the Nereis. A longitudinal indentation extends the entire length of the creature, both above and below. When swimming its branchiæ give to its sides a very curiously serrated appearance. Its motion is very rapid and serpentine, the undulation being generally lateral, but some that I preserved for several days alive moved also with vertical undulations like a leech. They are furnished with strong forceps, with which they can puncture the skin of the fingers, producing some amount of temporary irritation. On immersing the hand, or the point of a stick, in the water near them, they immediately rushed towards it, and quickly began to examine its character, from which circumstance they were easily captured in large quantities. The voracity with which they attacked a piece of meat thrown in amongst them was very remarkable. Their chief places of resort were the vicinity of rocks and quays, where they were seen in myriads swimming on the surface of the water. They appeared to feed among the Algæ growing there, and could be seen as the tide receded clinging by their forceps to the Algæ, and hanging down like so many leeches. I found them, however, in great numbers more than 100 yards distant from the rocks, probably driven about by the pollack. How they were introduced here opens a curious field of inquiry. So far as I can learn they were first observed in the immediate vicinity of the pontoon used by the Irish steamers, but I cannot see my way clear to assume the possibility either that any quantity of these creatures would have accompanied a steamer so far, or that their spawn could have been brought here in quantities sufficient to have produced suddenly such an extensive colony. Moreover, the Irish steamers have frequented that pontoon for a great number of years, and therefore might have been as likely to have imported them at an earlier period as now. There can be very little doubt, however, that this is their first visit to this locality, since I have not only never met with them myself, but have failed, with the most searching inquiries amongst the watermen and fishermen, who almost live upon the rocks and about the quays, to find any one who has. I have been thus particular in the description of the creature, as it is quite possible that some of your readers may have observed them in other localities without being aware that there was anything uncommon in the fact. Should they have done so, the communication of the result of their observations will throw additional light on the natural history of these curious Annelides.—*Jonathan N. Hearder; 28, Buckwell Street, Plymouth, May 20, 1865.—From 'The Field.'*

Notes on Devon Annelids. By EDWARD PARFITT, Esq.

I HAVE lately been favoured by Mr. D'Orville with a sight of a volume of manuscript and drawings, by Colonel Montagu, on the Annelids, &c., to use as I thought proper, for the work I am engaged upon, namely 'A Catalogue Fauna and Flora of Devonshire,' with notes and observations not before published, so far as I am aware, by other observers. In so doing, I am sorry to say, I am relying mostly on my own resources, particularly as regards the lower forms of life, both vegetable and animal; but, as I proceed upwards in the scale, I hope to have a few reliable assistants, but these only, so far as I am now aware, will be principally confined to the birds and Lepidoptera; but still I hope, as did Mr. Macawber, that others "will turn up."

Colonel Montagu, just previous to his death, had prepared in manuscript a volume, nearly ready for publication, on the various Annelids and other allied forms he had detected on the coast of Devon and surrounding seas; many of these do not appear to have ever been published, or the specimens preserved, instead of which he had, in most cases, drawn up careful specific descriptions of the species and varieties. Some of these descriptions are exceedingly brief; indeed, too much so to refer them to their proper places in the now-adopted systems; but in other cases the descriptions are full and the animals can, and I hope are, referred to their proper localities.

I have adopted the nomenclature and arrangement of Dr. Johnston's 'Catalogue,' edited by Dr. Baird. By publishing these, I hope it may lead to a further investigation of these curious and interesting creatures; and at the same time it is only due to the name of Colonel Montagu to give him the credit of first investigating the animals now under consideration: I consequently give his MS. names, where such do not occur in the genus to which they are respectively referred. It must be understood that this is not an entire Devonshire list, but only those undescribed, or manuscript species, or any curious varieties; the entire list is reserved for my own work.

Fam. I. PLANOCERIDÆ.

Genus LEPTOPLANA, Ehrenberg.

L. tremellaris, Mull., Tyrol. Dan. South coast of Devon. *Var. a.*—Dusky brown; in other respects the same as the type.

L. atomata, Müll. Taken by dredging on the south coast, and under stones on the north coast. This varies from reddish brown to pale yellowish.

Genus EURYLEPTA, Ehrenb.

E. vittata, Montagu, Lin. Trans. xi. t. 5, f. 5. Amongst rocks on the south coast; rather rare. *Var. a.*—With central line deep orange and the yellow parts in general more inclining to orange. *Var. b.*—Without any yellow, the ground white, with the usual black markings.

Genus PLANARIA, Müller.

P. vulgaris, Montagu, MSS. p. 230—31, t. 30, f. 7. Brown, the front auricled, with numerous minute black punctures round the margin of the head and neck. Body oblong, slightly contracted behind the head, posterior end obtuse, a dusky line running down the back; the dots on the anterior margin extend to behind the ears in a single line, seen but when the creature is in motion. It is an extremely variable species as regards colour, varying from brown to dusky gray, rufous-brown and yellowish; in some very much like P. fusca (*torva*, Müll.), but the marginal punctures and the want of two approximate eyes on the back of the head distinguish it from that species. A common species in some parts of Devon in spring, in slow streams.

Fam. III. DALZELLIDÆ.

Genus DALZELLIA, Fleming.

D. bipunctata, Mont. MSS. p. 235. Oblong, white, with two black dots at the anterior end. Body rounded in front, acuminated behind, the two black dots are probably eyes? Length a quarter of an inch; the motion is rapid and smooth. Coast of Devon.

Genus CONVOLUTA, Oersted.

C. elongata, Mont. MSS. p. 231 (Planaria). Body depressed, white, opaque; eyes none. Extremely amorphous, capable of great extension, and becoming nearly cylindrical when extended to between two and three inches in length; in this state it is not more than the eighth of an inch in diameter; when at rest it is about five or six lines. South coast of Devon; rare.

C. ascarides, Mont. MSS. p. 231. Body long, linear, white, with a square black spot close to the anterior end. Length one inch. Coast of Devon. I have placed this here provisionally, as Colonel Montagu had not made a sketch of it, and his description is too brief to recognize the genus to which it belongs; it is placed by him in section "eyes none." This notice may perhaps draw the [attention of] naturalists to it again.

Sub-Order II. TERETULARIA, Blainville.

Genus ASTEMMA, Oersted.

A. filiformis, Johnst. (*P. Gordius,* Mont. MSS. p. 231). Long, filiform, yellowish with two white spots at the anterior end, and a white dorsal line. Length an inch, size of a bristle. He then goes on to say that "From the proportional length of this species it is somewhat allied to P. Gordius, but it is rather compressed, and its motion is smooth without contortion; from this we seem to think it belongs to Planaria. It is observed sometimes to inflate its body in the middle, which it gradually pushes forward towards the anterior end." A variety sometimes occurs, of a pale rufous-colour, having a broad white dorsal line. A very long white filiform tongue or proboscis is occasionally darted out with great velocity and retracted very slowly." South coast of Devon.

In uniting A. filiformis with Montagu's P. Gordius I am not quite sure that I am right; these creatures undergo so many changes of form that different observers might be led to arrive at different conclusions.

Genus CEPHALOTRIX, Oersted.

C. unipunctata, Mont. MSS. t. 55, f. 5, p. 236 (Planaria unipunctata). Pale yellowish white, with a lunate black spot before the eyes, the concave part of the luna in front. Body filiform, gradually growing thicker towards the head; eyes black and rather distant. Length nearly an inch. Marine, Torcross; rare. This appears to be a very distinct species.

Genus OMATOPLEA, Diesing.

O. oculatus, Mont. MSS. p. 274 (Lineus oculatus). Body subdepressed, brown with pale margins, and furnished with twelve eyes. The colour is usually pale yellowish brown, with light margin; round the anterior end the white is much broader and more conspicuous. Just at the edge of the dark part are placed the six black spots on each side, apparently eyes; five of these are contiguous and equidistant, the two anterior are more remote. It is capable of considerable change of form, both laterally and longitudinally; the posterior is rather smaller than the anterior, but not pointed. Length from two to three inches, and about a line broad. *Var.?*—With the eyes more confluent, except the hindmost pair, which are distant, and with a faint pale dorsal line. Devon coast; rare.

O. spiralis, Mont. MSS. p. 274 (Lineus spiralis). Filiform, with a red spiral intestine; the outer integument having the appearance of minute annulations, probably transverse striæ. Body occasionally depressed, the posterior end often knotted or formed into knobs. Length two or three inches, not thicker than a horse-hair. Devon coast; rare.

EDWARD PARFITT.

Devon and Exeter Institution, Exeter,
May 4, 1865.

(To be continued.)

Poisonous Effect of a Cephalopod.—John H—— met with a sad accident yesterday: he was bathing early in the morning, when a Portuguese man-of-war wound its long thongs completely round his body, which instantly benumbed him, and he would have been drowned had not a companion who was with him pulled him out; but it was not until past noon that they had hope of his recovery: his flesh was then twitching frightfully, and his body was covered with weals the size of one's finger, as if he had been beaten by thick cords.—*From a private letter, dated "St. Vincent, Christmas Eve."* [Communicated by Professor Bell, of Selborne.]

Life-Histories of Sawflies. Translated from the Dutch of M. Snellen van Vollenhoven, by J. W. MAY, Esq.

(Continued from page 9553).

LOPHYRUS RUFUS, *Klug.*

Hartig, Blatt-und Holzwespen, p. 164, No. 11. *De Geer, Mémoires pour servir à l'Hist. des Ins.* Vol. ii. Div. 2, p. 254 (Goeze's translation), pl. 35, fig. 24—26. *Ratzeburg, Forstinsecten*, Vol. iii. p. 109, pl. II. fig. 7. *Le Peletier de St. Fargeau, Monogr. Tenthred.* p. 56, No. 160 (Lophyrus Piceæ).

Lophyrus corpore elongato in mare nigro, nitido, ventris apice, pedibusque rufescentibus, antennis 23-articulatis; corpore in femina crassiore rufo, antennis medio et apice necnon abdominis dorso fuscescentibus.

On the 8th of June, 1859, I received from my friend Mr. E. A. de Roo van Westmaas some Lophyrus larvæ, which had been found at Velp on the common fir (*Pinus sylvestris*). The following description was written at the time:—Length of the larva from 20 to 24 millimetres; head entirely shining pitchy black; the first segment at the neck reddish white; of this colour were also a line along the back and another on either side of the body above the legs, as also the abdominal and anal legs and the ventral surface. Between these obscure white lines the tint is reddish dark gray, close to the lines the colour is darker, that bordering the lines on the sides being almost black. Below these lateral lines and above the legs the tint again becomes dark gray; the last segment is very dark on the back, approaching black, without, or with only obscure, markings, and beset with little spines. There were twenty-two legs in all, the six thoracic legs being shining black, with the depressions of the joints pale gray (see figs. 1 and 2). Each segment of the body is divided into five folds, which are of unequal width (fig. 3); on the first, third and fifth are some spinose points, as also on the transverse folds above the legs; the stigmata are black.

These larvæ were extremely slow in their movements, and remained the whole day in nearly the same position; they appeared to me to feed only during the night. At first I fed them on leaves of Pinus sylvestris, but as I found it difficult to supply them with that food I gave them leaves of the Weymouth pine (*Pinus strobus*), which they ate readily; Ratzeburg also states that they eat other species of pine. After the last moult they were of an uniform pale gray without longitudinal marks, the head being dark gray as far as the eyes, pale gray further on. They pupized very soon after having assumed this appearance, and for this purpose made cocoons of a silver-white colour, among the leaves, as shown at fig. 4, somewhat magnified.

On the 9th of June of the following year I received from my friend Dr. Wttewaal a whole box full of similar larvæ; these were, however, somewhat differently and darker coloured; they were also much more lively, striking out both head and tail on being touched. The following description will apply to the greater number of these larvæ:—Head entirely shining black, as if varnished; a line along the back and another along the sides, above the stigmata, greenish pale gray; between these a broader gray line, little spines on the folds, as in fig. 3, giving the gray a striped appearance. Next to the pale line on the side is an equally narrow black one, then a row of pale gray knobs almost touching each other, and below these, just above the legs, a row of larger black projecting knobs. The thoracic legs were again black ringed with white, the abdominal legs greenish gray, mostly with two black spinose transverse lines; the anterior segment entirely greenish gray at the sides, the last entirely black and strongly spinose. The ventral surface greenish gray. Figures 5, 6 and 7 are drawn from these larvæ; fig. 5 represents three of the middle segments of the body, in profile, and fig. 6 the last two segments seen on the dorsum.

The longest of these larvæ were scarcely more than one centimetre in length; they frequently assumed a very singular posture, curling the terminal segments round a twig, and, projecting the body at right angles thereto, they bent the head and fore part of the body back against the dorsum, the thoracic legs being extended, thus putting themselves in the remarkable attitude which I have endeavoured to represent at fig. 7.

These larvæ were also entirely pale gray after the last moult, and spun up among the leaves. Among the cocoons I observed but very few pure white ones; the greatest number had a yellow or ferruginous tint, some were even entirely obscure yellow. From all these characteristics I came to the conclusion that this latter brood was healthier and stronger than the former. From both broods the imagos made their appearance in September, being three months after spinning up.

The male of this species is represented at fig. 8; it is only 7 millimetres long without the antennæ, slender, with a very wide head, entirely shining black and smooth, the exceptions being, as regards the tint, the antennæ, the legs and the ventral surface, which are pale red. The antennæ, which are very long, have twenty-five joints (Hartig says twenty-three to twenty-five), and are pectinated on both sides, but the pectinations on the outside are longer than those on the inside, more especially towards the base, where they are twice as long; see fig. 10 representing the outside pectinations, and fig. 11 representing those on the inside. The ventral surface is, for the most part, reddish, but black at the end near the valve of the penis; the claws are rufous, the pad between them being black. The wings are transparent and iridescent, the costa and stigma pale brown, the post-costal and externo-medial nervures dark brown, the other nervures grayish.

The female, represented at fig. 9, is longer and broader, expanding to 17 millimetres. The ground colour is yellowish red; the eyes and ocelli, the antennæ (except the first two joints) and the apex of the jaws are brown. On the mesothorax there are two black lines at the sides behind the insertion of the anterior wings; the margin of the scutellum is also black; the metathorax is brown, with yellow cenchri. The entire thorax is, moreover, particularly smooth on the dorsal surface. The abdomen is purple or vinous-red at the base, becoming yellowish red past the middle; the ventral surface is greenish yellow. The legs are red, sometimes, though rarely, with brown lines, more especially on the coxæ; the claws are rufous, the pads lying between them black. The wings are more or less smoke-coloured, the nervures being of the same tints as in the male, except the costa and stigma, which are pale red.

Hartig is our only authority respecting the generation of this species; he states that there is probably but one brood in the year, the larvæ feeding in May and June; the imagos appearing in August, September and October. We must then suppose the eggs laid by these latter to remain during the winter, whilst some larvæ hybernate in the cocoon, producing the imago in the spring. We are not aware whether this insect has caused any great damage to the fir trees in this country.

According to Hartig, Tachina bimaculata and T. gilva, as also Paniscus oblongopunctatus, *Hart.* (as yet undescribed) are parasitic on this species.

Collecting in New Granada. By Henry Birchall, Esq.*

June 17, 1863. I have secured for you a specimen of a lovely little Geometra with gilded or silvered wings, which strikes me as one of the most curious things I have yet sent you: it is only the second that has been seen here. I have not tried sugaring much: we have no places like those trees on the shores of Loch Rannoch; neither have we oatcake or fragrant heather. Last night I took in my sitting-room the most curious insect, in its way, I have ever seen in this country: a Noctua of sober dark plumage, but with its fore legs developed into great muffs, to keep them warm perhaps, and with a wonderful moveable helmet or solid crest turned back over its head. If this is not a prize I had better go out of the business, for there is no hope of finding greater curiosities. It rather encourages me to nocturnal persecution to have obtained this fellow, and you shall soon hear what comes of it. But I do not suppose that even you would do much sugaring if Mr. Smith O'Brien, with sufficient forces, were now encamped about five miles from your house, and the Duke of Cambridge was marching down from Chester to attack him with equal numbers: this is about our present position, and we take it so coolly that it is only once a day we say "What are these fellows doing by this time?" Now if this Noctua turns out common and worthless I shall be disgusted, and I protest beforehand against your reporting it a "common but handsome insect." Pray how would Darwin account for that moth getting a helmet, and a muff for his fore paws? it is not cold here; or does he go at night "caterwauling" to Ruiz, whose snows are visible hence. Or what advantage to self and family is the gold tracery on the wings of the little Geometra in the pill-box, that he should obtain the hereditary establishment thereof in his descendants? Has the vicinity of our silver mine anything to do with it? or did the caterpillar feed on pyrites, with occasional nibbles of native silver?

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* Communicated by Mr. Edwin Birchall.

June 20. I find mental anxiety and cares of business discourage me from Entomology. This arises a good deal from the want of companionship. Then it is so troublesome; one has to work in a narrow road, or on rocks by a stream, tying up one's beast meanwhile out of the way. I wish you could join me in a month's raid against the enemy; I am very weary for want of society in this place. Entomology requires company to be quite to my taste, and you catch more, I think. If I could only fall heart and soul into this hobby, to some extent, it would do me a power of good in keeping me more contented. Having to dispatch a parcel to-morrow, and yesterday being the feast of Corpus Christi, a strict holiday at the Mine, I resolved on an effort in your favour, and pressed O'Reilly and Keanan into the service. We spent the morning about the Mine, which is, so far as yet discovered, the best locality. You will see the result: one hundred and twenty specimens, which, in order to distinguish them, are put up in envelopes, and go in a small cedar box separate. The day turned out badly; a hot sun was accompanied by much wind, and somehow the number of insects on the wing was small. The quality may make amends perhaps, for we got several new species—that is, new *here:* Protogonius Hippona, Catagramma Opelii, C. Bromi (two or three specimens); a new Leptalis? and, moreover, a fellow so like Papilio Zagreus that I am disgusted: he is put up in the store-box, as his fat body would spoil in paper. Look at him; he certainly is what the Chancery wigs would call "a colourable imitation" of P. Zagreus.*

* The insect is an unnamed Castnia, wonderfully simulating Papilio Zagreus in marks and colouring.—*E. B.*

June 25. I went out collecting again yesterday, but not to much profit; common sorts mostly. In one sweep of the net I got thirty or forty Callidryas Argente, and could have taken two hundred easily: it is a sight when your net is full of these great fluttering fellows. I got a lot of very fine Ituna Lamyra, which you say are wanted: it is rather abundant at the Mines, and seems to be attracted by human excrement. Timeta Chiron and T. Berania were in thousands, but difficult to capture, flying with great swiftness. I also captured a pair of Heliconia Eleuchia. Why does it take so much to kill a Heliconia or any of the larger clear-winged sorts? They stand no end of pinching, and live for days in the envelopes to which I consign them. Collecting is ticklish work in the best places: the villains know their game, and flutter about a tempting bank, safe in the fact that if you strike, your net will be caught by a lurking bamboo, whose thorns with that one blow will tear your net to ribbons past all repair, without an evening's darning. One has to be very cautious about this, as a single slap into one of the thousand thorn-bearing abominations does your business for that day effectually; and then all our roads through the woods are muddy, or on the edge of horrible precipices, where a false step sends you to Pluto's dark domain, and where, as happened to me a few days since, a vigorous stroke separates stick from socket, and your net flies down fifty feet of ravine, to get down which is impossible, and recovery only possible by sending a man into the river below to clamber up the perpendicular wall of clay, thorns and tangle to the temporary lodging of your net.

October 14. I cannot learn the habits of the lantern fly yet, but doubt his luminosity much, as nobody here has seen his lamp. You shall have nests of spiders; they are abundant.

The Morphos are attracted with sugar, and I purpose a grand experiment of this kind. To catch Morphos on the wing requires a quick eye and hand, but it is very difficult. Some of them are not quite so quick, and float along, or flit rather, and their grand colours give you a good sight of them.

The Caligos, C. Ajax, C. Idomeneus, C. Telamon, &c., differ in their habits. They fly at dusk, and settle every moment on tree-trunks, where you may take them with the hand sometimes. C. Ajax himself I have not so caught, but C. Idomeneus is found everywhere below in the cold country.

Catagrammas of several species are numerous about the mines of Sant Ana, especially C. Marshalii, which we call "89," from the figures on the under side, but they are all hard to catch; they flit like sudden small lightnings: if they alight you may secure them, but on the wing they dart so rapidly that it is difficult indeed.

The Paphias being mostly dark coloured, it is not easy to follow them, but they alight frequently, and so fall victims if you are patient. I find these Paphias confine themselves to one place: I have tried after one for an hour and given it up, and gone, a day or two after, to the same spot and bagged it: this has happened repeatedly.

The Mygales are found on the ground or on trees; they make no web, and are indifferent to day or night apparently. The way to avoid them is to go everywhere on horseback, and to wear boots when on foot. They live, as you know, on small birds and mice. Cattle are not unfrequently lost from their bite, and it is highly dangerous to go out at night where they reside in any abundance.

Do you care for Neuroptera? I send you one like a dragonfly with butterfly antennæ. [Ascalaphus.]

HENRY BIRCHALL.

Proceedings of Societies.

ENTOMOLOGICAL SOCIETY.

June 5, 1865.—F. P. PASCOE, Esq., President, in the chair.

Additions to the Library.

The following donations were announced, and thanks voted to the donors:—'Proceedings of the Royal Society,' No. 72; presented by the Society. 'Transactions of the Zoological Society,' Vol. v. Part 4; 'Proceedings of the Zoological Society,' 1864, Parts 1—3; by the Society. 'Annales de la Société Entomologique de France,' 4me Serie, Tome iii., Tome iv. Trim. 1—3; by the Society. 'Essai Monographique sur le Bombus montanus et ses Variétés,' par Dr. Sichel; by the Author. 'A Letter to the Trustees of the British Museum on the Condition of the National Collection of Invertebrata: by Philocosmos;' by the Author. 'The Zoologist' for June; by the Editor. 'The Entomologist's Monthly Magazine' for June; by the Editors.

The following addition by purchase was also announced:—'Genera des Coléoptères d'Europe,' Livraisons 124—127.

Election of Members.

Lieut. R. C. Beavan, Messrs. W. Borrer, G. R. Crotch, W. S. Dallas and T. G. Rylands were severally ballotted for, and elected Members. Messrs. T. Brunton, B. Cooke and R. J. Ransome were severally ballotted for, and elected Annual Subscribers.

Exhibitions, &c.

The Rev. Hamlet Clark exhibited, and distributed amongst the Members, specimens of a beetle from British Kaffraria, which appeared to be an entirely new form of

Parnides. The captor, Mr. J. H. Bowker, of the Mounted Frontier Police, sent the following note respecting them:—"Water beetles, very like Spanish flies, very numerous in the Sunn (?) River: their habits are curious; whirling on a sunny day over the edge of the fall; they then make a sudden dive through the fallen water, and fasten to the face of the rock; they resemble in this way a flock of sea-birds when feeding. I never saw them at any other spot." Mr. Clark stated that the insect approached most nearly to Macronychus, *Müller* (*Illig. Mag.*), a genus of Elmidæ, but differed therefrom in the form of the head, the number of joints of the antennæ, &c.; its strong and broad claws and elongated robust legs would serve admirably to secure the beetle to the face of a rock, but it was not very evident how its legs were adapted for swimming.

The Rev. H. Clark read extracts from a letter recently received from Mr. Edwyn Reed from Bahia; want of knowledge of the language had prevented Mr. Reed from going up the country as soon as he had desired; he was proposing to spend May in Valença, and about June to proceed into the interior to the residence of a hospitable timber-merchant on the borders of the primæval forest. His first collection of objects of Natural History might very shortly be expected in London.

Mr. Janson read a letter from Mr. J. A. Brewer, dated Fayal, April 24, 1865, reporting the capture of about 150 species of Coleoptera at St. Michael's, by working as in England in winter; there were no insects moving about, it being still (though very warm) the winter of the Azores; many of those captured were apparently well-known British species, whilst others were unknown to the writer; the majority consisted of Carabidæ and Staphylinidæ, with some Curculionidæ and a few Elateridæ.

Mr. F. Smith exhibited a specimen of Apate capucinus, taken by his son Mr. Edgar Smith, in Bishop's Wood, on the 28th of April last, running over fallen timber (oak); he was not aware of the occurrence of the beetle in this country for some years, though Mr. Hope had formerly on one occasion captured half a dozen in Longmynd (or Longmont) Forest, Shropshire.

Prof. Westwood mentioned that Sir Thomas Pasley had formerly sent him a number of specimens from Pembroke Dockyard, where they were found burrowing in the oak timber.

Mr. Bond exhibited the specimen of Dianthœcia albimacula, the capture of which, on the 8th of June, 1864, near Gosport, is recorded in 'The Entomologist's Monthly Magazine,' vol. i. pp. 237, 282.

Mr. Bond also exhibited a Saturnia Polyphemus and its cocoon, and a large Ophion which had emerged from the same cocoon.

Mr. Stainton exhibited some galls on the leaves of an evergreen oak (probably Quercus Ilex), brought by Mr. Burney from Mentone.

The President exhibited a Dorcadion, probably a new species, which he had captured a month previously at Alicante.

Prof. Westwood mentioned that in the Burchell Collection, recently added to the Oxford Museum, were specimens of larvæ preserved in a dry state by a means capable of easy adoption; the larvæ were simply placed under heavy weights, so as to squeeze out all the intestinal matter, and then dried rapidly; the shape was of course lost, the skins being as flat as the paper on which they were exhibited, but the colours were admirably preserved.

Mr. F. Smith exhibited various Bombi, in illustration of some criticisms upon Dr. Sichel's 'Essai Monographique sur le Bombus montanus et ses Variétés,' and expressed his dissent from the conclusion of the author, that the numerous forms of Bombus therein mentioned were not true species, but merely varieties of the B. montanus of St. Fargeau.

Prof. Westwood directed attention to an article in 'The Gardener's Chronicle' of the 3rd of June, 1865, by Mr. W. Carr, of Clayton Bridge Apiary, Newton Hall, Manchester, in which the writer gives a detailed account of his observations, showing that workers of the Ligurian bee produced perfectly developed males or drones, corroborating Mr. Stone's experience as to the occasional prolificness of worker wasps. The Professor also took occasion to remark upon the abundance of queen wasps during the present year, notwithstanding the disease and destruction of the previous autumn, as mentioned by Mr. Stone (Proceedings, January, 1865).

The Treasurer produced an extract from the 'Pall Mall Gazette' of the 31st of May, which stated that an exhibition of insects was about to be held in Paris.* The exhibition was to be divided into two categories; the first to include (1) the producers of silk, (2) the producers of honey and wax, (3) the insects used in dyeing, (4) insects used for the table, and (5) insects used in medicine. The second category was to consist of all the insects that prove destructive to cereals, vineyards, orchards, forests and woods used for building purposes.

The President said that amongst the insects used for the table might be included the larva of a Macrotoma, which, under the name of "Bardé," was (as he was informed by Mr. Du Boulay) considered quite a luxury in the Swan River district of Australia. The larva in question had been erroneously attributed by Mr. Newman to a different insect, which he had named Bardistus cidarius.

The Rev. H. Clark mentioned that, in company with Mr. Grut, he had been present at a meeting convened by Lord Granville for the purpose of considering the destination of some of the Exhibition Buildings at South Kensington, and was glad to find the existence amongst those present of a very general feeling that more Museums were required in London. He advocated the formation of district Museums in different parts of the metropolis.

Prof. Westwood also spoke in favour of the establishment of more Museums, and remarked that there were buildings in the metropolis suitable for, or capable of easy adaptation to, such purposes, *e.g.* the building in the Surrey Gardens, only temporarily occupied.

Mr. Grut said that a Committee had been formed to promote the institution of a Museum of South London.

Mr. Edward Sheppard thought that, speaking with reference to Entomology, one good central collection was all that should be aimed at in the metropolis; that more harm than good would be done by forming a number of petty collections; and that the experience of this and other Societies in attempting to form collections should be borne in mind.

The President advocated the formation of small collections of typical forms for educational purposes.

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* The exhibition is announced to open on the 15th of August, and will be held in the Palais de l'Industrie, under the auspices of the Central Society of Agriculture, the Minister of Agriculture and Public Works being the President of the Committee of Organization.

Papers read.

The Rev. H. Clark read the concluding part of his "Descriptions of new Phytophaga from Western Australia;" including twelve species of Paropsis, four of Edusa, and one each of Thaumastomerus (*n. g.*) and Ocnus (*n. g.*).

Mr. F. Moore read a paper entitled "Descriptions of new Bombyces from North-Eastern India." The species were four in number, *viz.* Bombyx Sherwilli, allied to B. Huttoni; Saturnia Cidosa, closely allied to S. Pyretorum; S. Lindia, allied to S. Grotei; and Loepa Miranda; specimens of all of which were exhibited.—*J. W. D.*

Notes on the Mammalia of Norfolk. By T. E. Gunn.

Stoat.—A magnificent old male was killed on the 25th of February last at Hickling, and is now in my possession: I think it is one of the finest specimens I have ever seen, its weight being eleven ounces and a half in full; it measured seventeen inches in length: the average weight of ordinary examples is from seven to nine ounces, varying according to sex, the males, as in all species of Mustelidæ, being the largest.

Otter.—On the banks of our streams and in the neighbourhood of our broads, the otter is not of unfrequent occurrence, examples being obtained at all seasons of the year, more especially during the sharp and frosty winters, when, owing to the rivers, &c., being frozen, it is compelled to seek for means of sustenance on the land, where it carries on its depredations, sometimes to a great extent, particularly in vegetable gardens that are situated in the vicinity of the various watering-places, in which they abound. The otter having exhausted all its supply of fish from its usual haunts, and finding no suitable locality in the neighbourhood for another fishing-station, will traverse a considerable distance in search of that requirement, which will account for their sometimes being found in rather strange and unusual localities. I recollect an individual being obtained at night in one of the streets of Yarmouth, about two years since, having, in all probability, left its former fishing-station in search of one more favourable, or perhaps with the intention of enjoying an excursion out to sea, to which it appeared to be taking a direct course in its nocturnal journey across the town; by the way, however, its attention seems to have been attracted by the glare of a gas-lamp, near to which it was taken alive, but owing to the injuries the poor animal received at the time of its capture it died after two or three days' confinement. A friend has lately informed me of the occurrence of a magnificent old male of this species on the broad at Ranworth, a few years since, its weight being twenty-eight pounds. The following instances of the occurrence of the otter in this county I have noticed this season:—

December 1, 1864. A male on Fritton Broad, near Great Yarmouth.

December 17. A second male, at East Ruston, weighing eighteen pounds and a half, and measuring four feet two inches in length, tail included.

December 23. A male, killed on the River Waveney, near Bungay; weight upwards of twenty pounds.

February, 1865. During the latter part of this month two females were taken in the vicinity of Burgh St. Peter's, near Yarmouth. Mr. J. Knight, birdstuffer, had also brought him, about the same time, two very young ones, apparently not more than five or six days old.

Mole.—The creamcoloured variety of this species is not unusual in Norfolk; a few examples are taken each season; four individuals were obtained in the vicinity of Stalham Hall, on the 28th of February, 1863. In examining a bundle of mole-skins from one of the catchers' hands, who had obtained them at Bixley, near Norwich, during the middle of last February, I observed one individual with the entire surface of its coat of a uniform light umber-brown.

Brown Rat.—During the winter seasons of 1858 and 1859 three or four pale buff-coloured varieties of this abundant and destructive species were killed by a gamekeeper named Butler, on the Blickling estate near Aylsham; they were preserved, and two of them I have lately seen in the possession of an acquaintance of mine. The piebald variety is not unusual in this county; I have at various times met with several examples more or less marked with patches of white. A nicely marked individual of this variety was caught alive in the vicinity of Earlham, a village two miles distant from Norwich, two or three years since, and, from its being confined some little time, had become pretty tame and domesticated; by an accident, however, it met with an untimely end. A splendid white specimen was obtained in the neighbourhood of Barford in 1861. A most curious and somewhat extraordinary individual of this species was killed by a ratcatcher named Sayer, in the winter of 1861-62, on Mr. Tuck's estate at Strumpshaw, which is distant about eight miles north-east from Norwich: from the outward appearance of the skin of the animal many observers were of opinion that it was undoubtedly labouring under some peculiar disease: it appeared wholly destitute of its hairy covering, with the exception of its whiskers and a few hairs thinly scattered over the surface of its face; its skin was covered with small lumps, and of a dirty white hue, approaching that of a dull pinkish tint in some parts: it appeared of unusual thickness, and fitted rather loosely, causing some portions to overlap; I noticed this peculiarity more particularly over its face and neck and around its shoulders and flanks. About the time of the above occurrence other individuals of a similar description were stated by the rat-catcher to have been seen in the same neighbourhood, none of which, however, to the best of my knowledge, appear to have been captured. The above-mentioned specimen, as I understand from the birdstuffer into whose hands it fell, was exhibited at the 'Field' office in London during the month of February and the early part of March, 1862. It is now in the possession of Mr. J. J. Gurney, of Earlham Hall, near Norwich.

Common Mouse.—I have seen black, brown, piebald and white varieties of this common species; individuals of the two former and the last named were captured altogether in the vicinity of Horsford in 1861. An old acquaintance of mine residing in this city, just five years since, had at that time in his possession a pair of white mice, the female of which produced at one birth five young ones of three various hues, *viz.* two resembled their parents, two of a pale brown, and the fifth of the ordinary hue of the common mouse. I have seen several pied varieties, but very few of the black, which is, I believe, rarely met with.

Common Hare.—A very fine gray variety of the common hare was killed, on the 16th of December, 1864, by Mr. T. Calver, on his farm at Burnham Thorpe, near Wells; two similar examples occurred on the adjoining estate of Mr. John Overman, in the season of 1860, which Mr. Overman succeeded in obtaining possession of, and still holds them, he having had them preserved by one of our bird-stuffers. A nice variety was killed at Rackheath in 1863, its coat being of a pure white, with the exception of its ears, which retained their ordinary colour; patches of the same also encircled its eyes, and a blotch likewise appeared conspicuously in the centre of its forehead.

Common Rabbit.—I have had the pleasure of observing several nice varieties of the common rabbit: the black is not unusual; the last instance of its occurrence in Norfolk that came under my notice was that of a specimen killed at Stanfield, near Wymondham, in November, 1864. A nice example was taken near Cranmer Hall, on the 20th of November, 1862, its entire coat being of a uniform reddish brown; its eyes were of the same hue. My friend, Mr. John Cooke shot at Hathersett, in 1861, a white variety marked with patches of its usual hue on its nose and ears; a small blotch of a rufous tinge also showed itself just behind the latter; a narrow grayish brown streak likewise appeared down the entire centre of its back. A second individual similar to this latter was killed on the Rackheath estate, about a month previous to the occurrence of the variety of the common hare that is recorded above from the same locality.

T. E. Gunn.

Norwich, May, 1865.

Notes on Quadrupeds of Lanarkshire.

By Edward R. Alston, Esq.

Stoat or Ermine.—This is our commonest weasel, being decidedly more plentiful than the little Mustela vulgaris, while the polecat or foumart appears now to be quite extinct in the neighbourhood. The change of colour in this animal seems to be influenced by a very slight difference of temperature, for the white specimens which are taken here in winter are almost invariably killed on the moors and exposed ground, while those caught in the glens and sheltered plantations are all more or less mottled with brown. I have taken some trouble to place this fact beyond doubt, and have kept notes on it for three or four winters. Some change more readily than others; two were trapped at the same hole this winter, one of which was almost perfectly white, while the other was about "half and half." The nape of the neck, about the nose, and a patch on the shoulders, seem to be the last parts to lose the summer hue: in some specimens the longer hairs are the first to change, in others the inner fur. Some skins have a strong yellowish tint, especially about the fore quarters; this remains even after all the brown has disappeared, whereas others are beautifully pure in tint, although retaining large patches of the darker colour.

Habits of the Weasel Tribe.—These animals are popularly supposed to kill their prey by sucking the blood from one of the principal arteries, or by penetrating the spinal chord at a single bite. Mr. S. Woodcock, of Bury, Lancashire, opposed this opinion in a most interesting letter in 'The Field,' of the 27th of December, 1862, and my own observations tend to confirm his views. In the case of large animals, as rabbits and leverets, the mode of attack is by *worrying* and *tugging* at the skin of the head and neck, the assailant frequently changing his gripe, and not retaining his first hold as has been stated; and death seems to be caused more by "exhaustion and the shock to the nervous system," as Mr. Woodcock phrases it, than by any directly mortal wound. It would appear, however, from Professor Bell's observations, that the weasel kills small animals, such as mice, by a single bite through the brain ('British Quadrupeds,' p. 143). When a rabbit has been killed the first part eaten is usually the neck, not the brain, as often stated, and I have seen a weasel *lap* up the blood as it flowed from a dead rabbit, although I am not aware that there is any evidence of their *sucking* the wound. After the neck is eaten the body is generally dragged away to the den of the destroyer. Ferrets often tear out the eyes first, and I believe that this is also a practice of our native weasels. In pursuit of their victims these animals often hunt by scent, and I have known a stoat to swim across a small river and then "cast" up and down the opposite bank to recover the trail. The bewilderment which seems to seize animals pursued by weasels is probably the effect of terror and despair, the poor beast knowing by instinct that neither by swiftness of foot nor in the depths of its burrow can it hope to elude the untiring pertinacity of its enemy. In suitable places stoats and weasels seem to be gregarious to a certain extent, and the stories one so often hears of men being attacked by troops of those savage little creatures have probably some foundation in fact, although doubtless generally exaggerated.

Squirrel.—Our favourites, mentioned in a former notice (Zool. 9481), have deserted their feeding-ground since February. I hoped to have been able to have settled the question of their removing their young from nest to nest by actual experiment this spring, but have not been successful in searching for a brood. In April, however, I found *three* nests within about fifty yards of one another, and *two* in another wood also close together; and in each instance an old squirrel bolted from one of the group, while the others were empty. I was much pleased to see Tschudi's statement as to the squirrel digging up truffles corroborated by so eminent a naturalist as Mr. Newton (Zool. 9560). The woods here are now thickly strewn with the remains of their feasts on fir-cones, particularly round the stumps of felled trees, which would seem to serve them as dining-tables.

EDWARD R. ALSTON.

Stockbriggs, Lesmahagow, June 16, 1865.

Breeding of the Squirrel.—On the 26th of April I saw four young squirrels which had been recently taken from the nest: they were about three-fourths the size of the old one. I fancy that this is rather early breeding.—*W. Jeffery, jun.*

Kids suckled by a Bitch.—Last year, when the troops left this station to proceed to the frontier war, a goat belonging to an officer had two young kids the very morning the force marched. The cruel native servants, who have less feeling than any animal, even a tiger, took with them the poor mother and left the two kids behind, because to carry them would have entailed a little trouble, a thing most devoutly abhorred by this class of menials. The little kids made a terrible bleating noise at being left all alone; and a pariah dog, who was employed as a wet nurse, in the opposite compound, for two English puppies, came over the road and took the helpless little kids in her mouth, and conveyed them into the box where her two puppies were: after this she regularly suckled them, and brought them up with the other two of her adopted family. It was a curious sight, the old lady suckling two puppies and two kids; she laid down to the former, but had to stand up for the latter; they used to run at her in the usual vehement way lambs and kids do at their mothers, which often gave the dog great pain; but, notwithstanding this, she was never known to bite at them. These two kids grew up and followed the dog about, along with the two puppies all day, until the kids became as big as the old dog herself: she nursed them for about three months, when she had a family of her own, and left off taking any notice of them further than by a good-humoured wag of the tail or an occasional lick of their faces. These kids grew up to be big goats, and continued playing with the dogs, their foster-brother and sister. The old dog had been, in the first place, deprived of her own offspring, and the two puppies had been brought to her to bring up. Perhaps having lost her own family made her take compassion on the kids, thus showing that "A kindred feeling makes us wondrous kind" does not apply to the human race alone. —*T. P. Norgate; Sealkote, January*, 1865.

Notes on the Indian Crow. By Major NORGATE.

THIS bird may be considered as the scamp among his feathered brethren. He is the most impudent, impertinent, inquisitive, loquacious, bullying, and annoying bird perhaps known. With his habits all residents in India must, in spite of themselves, be tolerably conversant, for the crow comes into your house, flies away with an egg off the breakfast table, sticks his beak into the butter pot, steals the sugar, &c: he gets into a great funk if you chance to come into the room, and catch him at it, and generally knocks down something off the table in his hurry to fly away. His inquisitiveness is unequalled. You cannot leave your house, walk in your garden, dig up a sod of earth, sow a single seed, or sit down anywhere for two minutes without this bird coming to see what you may be doing. He watches the dog, when it hides a bone or piece of meat, and quickly disinters it. The crow is so sharp, that one of them seldom gets anything to eat, without all his dusky companions in the compound knowing it, and a system of robbing immediately takes place, one bird seizes the bone, or whatever it may be, from the other, then a row takes place. The crow cannot hold its tongue, and the noise attracts the hungry kite, who comes down with a swoop and takes away the bone of contention. I remember once seeing a large rat thrown out of a trap, a crow at once came near, examined it, and pecked at it for a while without making much impression; it then set up a cawing, which brought a dozen other crows to the spot; they all began pecking and tugging at it, and had nearly succeeded in breaking the skin of the rat, but they could not keep their good luck to themselves, but made such a noise that a kite, flying over head, thought they had got something good, made a pounce at the rat and fled away with it, leaving the party of crows in the utmost astonishment, with their necks stretched out, at the sudden disappearance of their prey.

The crow will take a piece of bread from a child's hand, or even its mouth; it will bully a small chicken or young duck when the hen is not present—it dare not do it when she is there to defend her family.

If you shoot a crow, every other within half a mile will come hovering round in great excitement, or will alight on the trees close by, making a terrible row.

The crow has meetings for some reason or another; these the natives call "Punchayeti" (a sort of court). I have several times seen these assemblies; four or five crows will alight upon an open space, generally on green grass, two or three will begin cawing, and in a minute or so, some forty or fifty of them will come flying towards the place by twos and threes from every quarter: they then form a kind of ring round one crow, who appears to be an offender against some of their rules of society, and they remain still for some minutes—the culprit never appears to attempt to escape; then all of a sudden five or six of them will attack the prisoner, pecking him and striking him with their wings. On one occasion I saw the crow left dead on the spot, on another the prisoner's wing was broken; but these courts, or whatever they are, suddenly come to a termination by the too near approach of a man or a dog. I saw one meeting which lasted twenty minutes, but no punishment was inflicted on any of them and no noise was made; the whole assembly flew off together, they were not disturbed at all, and they were eating nothing, for it took place on a bare plain. Of course it must only be surmised as to why these crows are punished by the others; perhaps some close observer may discover the reason. The crow can hardly be called a gregarious bird, in the same way that the rook is, because the crow builds it nest separately, not more than one in a large tree; but it roosts at night in large parties. It seeks its food on its own hook, not in company, and it is only accidental when more than two or three are seen together. Generally the crow goes in pairs, but of an evening it collects in large flocks, and flies towards some thick wood or tree, sometimes ten miles away, where it puts up for the the night; here it meets all the crows of the surrounding neighbourhood, who make a great noise before they seem to get a bed to suit them. They are very early risers, small parties leaving the wood or tree as soon as it is light.

The crow attends cattle, hunting about all over them for ticks and other parasitical insects, and, as long as the bird confines himself to this amusement, he appears welcome, for the cattle submit to his close inspection most patiently; but the crow is a mischief-loving bird, with a dash of fun in him, and every now and then he gives a sly peck at some sore place on the animal's back, and, although driven off twenty times, he will still return to his annoying occupation. The crow seems to devour anything eatable, nothing seems to come amiss; every piece of manure left on the road is most minutely turned over for any particles of undigested grain; every bone is peered into to see if a suspicion of marrow remains; dead animals are devoured by it as soon as the vultures or jackals have made a hole in the carcase, for the crows beak, though strong, cannot break through the hide. When carrion is found by it, the crow has to wait until the vultures have satisfied their hunger; but he sometimes vents his spleen at being kept waiting by sly digs on a vulture's neck (which is bare) when that bird is busily engaged in tearing off the flesh from the dead animal; the vulture makes a clumsy attempt to peck his tormentor, who then takes the advantage to steal the morsel of flesh and fly off. All grain and most kinds of fruit are devoured by the crow; in fact, the only things that he does not seem to touch are orange-peel and celery, which few animals will eat excepting the goat.

Without any apparent reason, unless it be for fun, the crow will fly after the raven and big crow, also after a hawk, and bully them greatly. It will sometimes pounce down on the head of your dog, and really appears to enjoy the animal's consternation. At these particular occasions the crow can fly very fast, and manages to keep above the bird he attacks in the air; however, the hawk often does not seem to see the fun of it at all, and flies after the crow in good earnest, when the latter is very glad to beat an ignoble retreat into some thick tree, where he vents his abuse in loud caws.

The crow robs the artless nest of the dove, in which its eggs are so exposed to view that any passer by can see them; but he often comes in for a good thrashing from the dove, and seems to know that he is a rascal, as he always bolts ignominiously. During the hot weather the crow seems to suffer much from the heat, for it may often be seen with beak wide open, panting under the shade of a tree. In the hottest part of the day the crow is silent, but at any other time, when it is light, there is a continued noise kept up by some of them.

"Splendens" is an odd specific name for this bird; I confess I can see very little splendens about this scamp; at any rate, Corvus Indicus may be just as good a name. In size it is about that of a jackdaw; colour black-brown, with a gray ash-coloured ring round the neck, a deep blue shade appears on its feathers when seen in the sun. It inhabits all the plains of India, and is seen in some of the hills, but not very far in them. Like the rook, this crow appears, at certain seasons, to be taken crazy, for it darts and shoots about in the air like an arrow, making a screaming noise. The natives say this is a sign of wind.

The only good quality I know of this bird is his great affection for his partner; he is continually stroking her with his bill and caressing her; this is done at all times of the year, and not during the breeding season alone.

Crows are easily taken in any kind of trap, as long as the place of setting it is varied, but once a crow has been caught, no other will be caught in that place for a long time.

At certain seasons of the year a class of natives purchase crows to turn off again, as they fancy all their sins go with the crow; it is just as well for the birds. The natives do not think it necessary to offer him up to appease one of their three million gods. These miserly Bunniahs (or green grocers) pay as much as three shillings for a crow, so desirous are they of getting absolution for their sins.

The crow has two or three young ones twice a year; these are of a blue-black colour, and do not get the gray ring till the second year. They follow their parents about for a month or so, making a most clamorous noise for food. The crow catches white ants and locusts in the air with tolerable facility. If any misfortune should befall one of their brethren the crows do not show any sympathy, but begin teazing it and pecking at it until it dies. No severer punishment can be given to an impertinent crow than to pluck a place bare on its back or neck and let him go; you will seldom see that bird again. I think from the character here portrayed, and from his habits and customs, the name I have given the bird is somewhat appropriate, and so I will take leave of the crow, although the scamp never takes leave of me; he is always present.

T. P. NORGATE.

Sealkote, Punjaub, India, April 3, 1865.

Ornithological Notes from Lanarkshire.

By EDWARD R. ALSTON, Esq.

(Continued from page 9573.)

MAY, 1865.

Merlin.—A female merlin, which built this month by the side of a small heathery glen on a farm near this, showed an attachment to her eggs almost worthy of being recorded along with the famous raven in Gilbert White's second letter. Being flushed from the nest she was fired at and struck, but not killed; about an hour afterwards she was found seated on her eggs, so severely wounded that she was unable to move, and was taken with the hand. Even the stern heart of a gamekeeper was touched by the devotion of the poor mother, who had used her last remaining strength to return to her beloved charge, but nothing was left but to put her out of pain. The bodies of three snipe were found beside the nest, a proof of the great powers of flight of this handsome little falcon; the eggs, four in number and partially incubated, were brought to me. I have never seen any eggs of the merlin which agreed with Morris's description, "Bluish white, blotted, particularly at the thicker end, with deep reddish brown or greenish brown" (vol. i. p. 116). Yarrell's account is much better, "Mottled all over with two shades of reddish brown" (vol. i. p. 50); they vary, however, considerably in depth of tint; but, like all falcon's eggs, they are generally darker at the smaller end. A female merlin, which was sent to me from Ayrshire, in January last, was so gorged with the remains of some species of thrush that not only the stomach but even the gullet, was completely crammed, almost to the throat; this was an unusually dark-coloured example.

Tawny and Barn Owls.—I lately examined seven "castings" of the tawny owl; they contained the bones, fur, &c., of at least ten mice and field-voles, six or seven shrews, one young rabbit, and one small bird. As these birds throw up at least one casting daily the number of mice destroyed by a pair in the course of the year must be enormous. Mr. Broderip, in his admirable account of the owls in the 'Zoological Recreations,' speaks of this species as "a sylvan hermit, with a dash of the poacher about him too—a sort of feathered Clerk of Copmanhurst, for—

> 'He whoops out his song and he laughs at his jest,'

living ostensibly on very simple food, but making free every now and then with a young rabbit, or mayhap a leveret." But the rabbit ought certainly to be put down among the good offices of the hermit, for these animals are even more destructive than the mice and voles. A pair of tawny owls bred here this season in a deserted nest in the midst of a populous rookery, where, however, they were much annoyed by the impertinent curiosity of their sable fellow-citizens. Does not this species almost invariably build in hollow trees? Yarrell and Morris both describe the Strix aluco as being rarer in Scotland than in England, but here it is decidedly the commonest of the family, the barn or white owl being rather rare. Does the latter ever hoot? I am inclined to believe not, and am convinced that Sir William Jardine is at least mistaken in saying that, "at night, when not alarmed, hooting is their general cry." A few years ago I spent some months in a house in the South of Germany, which stood close by the village church; the steeple of the latter was inhabited by numbers of barn owls, and though I often listened at night to their strange hissing, snoring and screaming, yet I never once heard them hoot. I also once kept a tame specimen for some time; it shrieked horribly, but I never heard it hoot.

Birds of Passage.—The swallow was first seen here on the 17th of April (one specimen, and more next day). It was recorded in the local newspapers as having appeared at Greenock on the 14th and at Airdrie on the 16th. Now as these places lie to the northward, but are situated in a much lower-lying part of the country, it might lead one to suspect that the summer migrants follow the course of the lower and milder tracts, gradually spreading to the higher and more exposed districts, instead of following a direct northern course. The cuckoo was first heard on the 23rd of April; the willow wren appeared about the same time. Flycatchers had eggs by the end of May.

EDWARD R. ALSTON.

Stockbriggs, Lesmahagow, June 6, 1865.

Errata.—In my notes on the wild white cattle (Zool. 9514), for "Dunnlarry, Dumfriesshire," read "Drumlanrig." This mistake was caused by a misprint in the 'Penny Magazine.' In my notes on rooks (Zool. 9572), for "many of them had nests," read "many of them had eggs."—*E. R. A.*

Ornithological Notes from Flamborough. By JOHN CORDEAUX, Esq.

LAST year I sent a few short notes to the 'Zoologist' (Zool. 9243), on the birds seen during a visit made in July to this famous Yorkshire headland. I therefore venture again to offer some further remarks on the Ornithology of Flamborough, from notes taken during a short visit there with a friend in the last week in April.

On the 24th of April, at 2.30, we arrived at our comfortable and quiet quarters in Thornwick's Hotel, within a short distance of that romantic little bay known as the North landing-place. It was a bitter cold day, the wind north and a dreary gray sky, harmonising, however, with the bleak and wintry appearance of the headland. The hedgerows and few stunted trees on this the north side of the promontory showing, compared with what we had seen on our journey down, but little indications of spring time.

On our way from the Marton station I kept a sharp look out for any of our summer warblers, but none were to be seen; two or three yellowhammers and a pair of blue titmice being the only result of a somewhat close inspection of the hedgerows.

The North landing-place at Flamborough is alone worth a visit. On a steep incline running down to the beach, and out of reach of the heavy surf, are drawn up the boats the property of the fishermen, who compose almost the entire population of the neighbouring village. Perhaps no portion of the coast exceeds in beauty this lovely bay. Both on its eastern and western sides the ceaseless work of the wave has excavated in the base of the limestone cliffs deep caves and holes: some of these caves or "Robin Lythe's Holes," are of considerable extent and beauty, and well worth the trouble of exploring. It was high water when we reached the landing-place, and a heavy sea was breaking over the reef at the entrance of the bay. The boom of the heavy waves was re-echoed again and again from the deep caverns, while the foam was hurled far up the sides of the rugged cliffs. Out to seaward, ridge beyond ridge of white crested waves promised us as yet but little prospect of our intended boating excursion along the coast. Flying backwards and forwards, with slow and stately motion over the bay, were thirty or forty herring gulls, the greater portion birds of the last year in their dark immature garb, the remainder old birds in full summer plumage. Now one, now another, would dash suddenly downwards, and rescuing from the foam some morsel of floating matter, resume its stately wheeling flight. Amongst the herring gulls was a solitary kittiwake, its light graceful flight and pure unsullied plumage contrasting strongly with the dignified movements and the sombre tints of the young herring gulls. As it was too rough an afternoon for boating, we decided to walk along the summit of the cliffs in the direction of Speeton. Climbing down amongst the broken masses of diluvium, and crossing a little rill from the high ground almost choked with bright yellow masses of the marsh marigold, and thickly bordered with rushes—a likely looking spot for woodcock and snipe on their first arrival from the far north—and then scaling the opposite hill, we presently reached the higher range of cliffs. It was not, however, till we passed the northern extremity of the Dane's Dyke that we reached the great harvest of the sea-fowl. The old trench and embankment called the Dyke, now covered with gorse and brachen, runs completely across the promontory, here about three miles from sea to sea. Popular tradition ascribes it to the Danes, although it is probably of much older date. Even now, after the lapse of so many centuries, the work remains in a wonderful state of preservation, and will well repay exploring from end to end. From Dane's Dyke to the termination of the chalk cliffs near Speeton, where they leave the coast and run inland, is, measured by the sections of the coast as given in Phillips's 'Illustrations of the Geology of Yorkshire,' just three miles, and the average height of the cliff about 330 feet. This portion of the coast is now the last retreat of the sea-fowl—last I say, for most certainly if the present senseless and cruel persecution of the birds is continued, the day will arrive when they will be as rarely seen as on the opposite side of the headland.

I was told that a few days previous to our visit a party of five men had been down for a day's shooting, and boasted to have killed six hundred head of guillemot, razorbills, &c. The greater portion of these birds thus slaughtered they did not even take the trouble to pick from the water. It was a mere wanton, senseless and useless butchery. Old residents at Flamborough have frequently assured me that twenty years since, before the railway was made, the sea-fowl were then more than double in number compared with their present quantity. At that time they regularly frequented and bred in the lower ranges of cliffs, and in all the little bays as far as the extreme point of the headland. Now on all this portion of the coast hardly a bird, saving a few rock pipits and jackdaws, are to be seen. Still after twenty years of almost ceaseless persecutions, on all the higher range of cliffs, the number of sea-fowl is very great.

During our evening walk we saw immense quantities both of the guillemot and razorbills, and about the highest and most inaccessible part of the rocks thousands of the beautiful kittiwake gulls. We only saw three puffins, however; they have certainly not yet arrived on the coast in any number, as these were the only birds of that species seen during our visit. Last year, in July, next to the guillemot they were the most numerous. I did not succeed in finding the ringed guillemot, for although I ran my telescope carefully along row after row of birds as they sat upon the cliffs, and in this way examined great numbers of them, I failed to detect one with the white eye streak. Occasionally, on one approaching the edge of the cliffs, a small flock of rock pigeons would dash out from below, looking mere miniatures in size compared with their domestic allies. This was owing, no doubt, in a great measure to the gigantic character of the surrounding objects, which gave all the sea-fowl a much smaller appearance than was really the case.

April 25th. On coming down this morning I was much pleased to find the wind had changed during the night, and was now blowing full W., a favourable quarter for our proposed boating excursion under the cliffs. On walking down to the North landing-place we found a heavy swell still rolling into the little bay, the effects of the late northerly winds.

Having engaged our boat we were presently pulling through the surf and out into the sea, keeping well out to escape the ground swell, which was anything but pleasant close in shore. Soon after leaving the Bay the light mists, which during the morning had enshrouded the headland, began to clear away. I never before saw Flamborough look to such perfection as it did this morning; the grand range of cliffs on our left rising perpendicularly from the water, their tops still circled by their gauze-like wreaths of mist. Seen through the medium of this light transparent veil they loomed gigantic. Filey Bay in the distance was enveloped in the same thin veil, with the famous "Brig" showing low down on the water as a darker shade. While far out to seaward the horizon was shut in by a rich purple haze. The sea was not rough, but a long unbroken swell was rolling in. As our light boat rose like a sea-gull on the summit of these long rolling swells, far out to our right we saw "wold" beyond "wold" of green water heaving gently upwards and then sinking again; floating on their green ocean fields, far as the eye could reach, were innumerable kittiwakes and herring gulls, black and white razorbills and guillemots, dotted about on the waters like flowers in the inland meadows.

We found but few birds on the cliffs till opposite the northern termination of Dane's Dyke. From this point they began gradually to increase in numbers. Several small parties of razorbills and guillemots flew close past the boat, flying towards the rocks. It is not difficult to distinguish at once the difference between the former bird and the guillemot on the wing, even when at a considerable distance. The razorbills have a much thicker and clumsier appearance about the head and bill, more approaching to the puffin; and the darker colour of the upper parts, which is readily distinguishable at a distance from the brown of the same parts in the guillemot, will also at once serve as a distinction. When swimming on the water, and on the close approach of the boat, the guillemot invariably took wing, scuttling along the water for some yards before getting well up, like young wild ducks. The razorbills, on the contrary, would dive, coming up again at some distance from the boat. The guillemot, when on the wing, has the same odd manner of moving the head about which may be observed in them on the rocks, where they sit bowing and moving to each other with the utmost appearance of politeness.

The cry of the razorbill is frequently wonderfully like the short bark of a young puppy. The resemblance is often ludicrous, and gives one the idea of a pack of young foxhounds on the rocks.

Two miles beyond the North landing-place, and not far from the highest part of the cliffs, there is a remarkable dislocation of the chalk strata, as if the bed of limestone had been violently pushed together when in a soft state by some tremendous lateral pressure, thus forming what geologists call synclinal and antictinal curves. The face of the cliff is here much broken up into narrow ridges and shelves, and at the time we passed every available resting-place was crowded with birds, row above row; and in places where the nature of the rock permitted, they sat packed close together in crowds. Almost a continual stream of guillemots and razorbills was constantly passing out to sea and returning to the rocks. Thousands of kittiwakes hovered along the face of the limestone precipices, while many together, like white patches of snow, sat here and there on the ledges.

The amount of birds seen at this portion of the coast, both on the wing and on the rocks, was prodigious, and far exceeded anything I had seen before. Hundreds of kittiwakes were hovering over the boat, but at a great height,—many of them showing as mere shadows in the light sea fog which was drifting overhead,—like the pale ghosts of departed kittiwakes revisiting their old haunts.

During the whole of our boating excursion we did not see a single puffin.

In the afternoon we walked up to the village and inspected a fine specimen of the whitetailed sea-eagle, which had been shot some time since on the rocks near the Head. It had been stuffed and set up by Mr. Bailey, bird and egg-collector. Mr. Bailey informed us that a fine specimen of that rare bird, the buffel-headed duck had been shot near Bridlington Quay during the last winter.

We walked from the village to the extreme point of the headland. We observed several wheatears, stonechats and rock pipits; the latter bird has the same characteristic manners as seen in the tree and meadow pipits, rising into the air for twenty or thirty yards, all the time uttering their simple song, and then descending again head foremost, the tail spread and thrown backward.

On one of the fine isolated masses of rock at the extremity of the Head were seven purple sandpipers, sitting just out of reach of the heavy sea on a narrow ledge of the rock. Five of them were in a state of repose, the head doubled back under the wing; the other two were running nimbly backwards and forwards on the narrow shelf.

We continued our walk along the northern cliff, observing the manners and customs of starlings, jackdaws and rabbits. I was surprised to see the ease with which the rabbits ran along the almost perpendicular sides of the clay cliffs; apparently the slightest slip must inevitably precipitate them hundreds of feet below into the boiling sea.

When walking out this evening, about 8.30, enjoying our pipes, we heard overhead the well-known cry of the green sandpiper. I was told it is by no means an uncommon bird at this season of the year at Flamborough.

April 26th. Having seen our luggage despatched on the back of a donkey to the Marton station, we walked down to take a farewell look at the North landing-place. Two or three fishing-boats had just come up, having met with but indifferent success, owing, as the fishermen told us, to the unusually early appearance of sharks on the fishing-ground. Each of these boats did not contain more than thirty or forty lean-looking cod, besides a few lings and skates After the fish had been sold they were immediately opened, the livers placed together in a basket, and the entrails, &c., carefully put on one side for bait. They were then packed into deep baskets, the baskets slung across the donkeys' backs, and thus carried up to the village to be finally dispersed by rail over the kingdom.

On examining the contents of the stomachs of the cod I found them to consist almost entirely of crabs, both the common and soldier crab, several very fine prawns, looking nearly as fresh as if just caught, and a few of those curious and beautiful annelids, the sea mouse (*Aphrodita* *aculeata*). This curious animal is covered with sharp bristles and soft silky hairs, of the most brilliant metallic colours, a dress which rivals in beauty the gorgeous eyes in the peacock's tail.

JOHN CORDEAUX.

Great Cotes, Ulceby, Lincolnshire,
May 10, 1865.

Ornithological Notes from North Lincolnshire.

By JOHN CORDEAUX, Esq.

(Continued from page 9600).

MAY, 1865.

Gray Plover.—May 3. Punctual to their time, the first week in May, the gray plovers have arrived on the coast. On this day I saw several small flocks of these birds on the "flats." One flock, which I examined through a powerful field glass, consisted of birds, half of which showed as yet little change in plumage from the usual winter garb. The remainder were more or less in the transition state, one only appearing in the full summer dress. On the 8th I counted sixty together feeding on the flats; this flock was composed of birds in every state of transition plumage. On the 24th, with a very few exceptions, the gray plovers had entirely acquired their full summer dress. These birds arrive on the Humber shores in much greater numbers during their passage northward in the spring than on their return southward in the autumn. At this latter season they are only seen in small parties, not in large flocks; some few are always found on the coast during the winter months; the greater portion, however, after a short visit, leave again. Every day on which I have been on the coast during the past month I have seen numerous flocks of gray plovers feeding on the mud flats. Unlike the whimbrel, however, they never resort to the grass marshes and corn lands bordering the river: they are wild and shy birds, rising immediately on the slightest appearance of danger, flying in a wide circle out to sea, and returning again to some distant part of the fore shore or some mud bank surrounded by the water. From the impassable nature of these dreary mud plains it is almost impossible to get within gun-shot of them. I have frequently endeavoured during the month to obtain a gray plover in the full summer plumage, but hitherto without success. To-day (June 1st) I did not see any gray plovers on the coast. The local name of this bird is the "sand plover."

Whimbrel.—These birds prefer feeding, at this season, in the grass marshes and corn lands to the deep ooze of the Humber shores. Although some few may generally be found during this month on the fore shore, yet by far the greater number resort during the day time to the grass marshes. They have been very numerous during the month in this neighbourhood, but have not remained quite so long as usual. In a walk extending over many miles along the Humber bank, on the 24th of May, I only saw four of these birds, where a few days previously I had seen large flocks.

Dunlin.—After an absence of nearly a month the dunlins have returned in great numbers. On the 13th I saw immense flocks of them; hundreds packed together were flying backwards and forwards over the fore shore—a most unusual sight at this season of the year, giving the coast all the appearance of a winter's scene. I also observed the same day unusually large flocks of sand plovers, whimbrels and ringed dotterells on the flats. During nearly the whole of this month dunlins have been very numerous; by the 13th they appeared to have fully acquired the summer plumage.

Ringed Dotterell or Ringed Plover.—Observed during the last fortnight several small flocks of ringed plovers on the coast; they are sociable birds, feeding in company with other species frequenting the coast.

Bartailed Godwit.—Unusually scarce; I have only seen one small flock (May 24th) feeding on the fore shore, in company with whimbrels, dunlins and gray plovers.

Blackheaded Gull.—These gulls are far more commonly met with than any of the other species frequenting the Humber. At this season of the year they are absent at their inland breeding-places. There is a famous breeding-place in this county on Sir John Nelthorpe's estate, near Brigg; and another in Yorkshire, at Hornsea Mere. I have seen two or three old birds flying about the great drains in the marsh district during the last week in the month.

Scaup Duck.—On the 24th, when walking with a friend along the Humber embankment late in the afternoon, at which time the tide was washing the foot of the bank, we observed a solitary scaup swimming close in shore: it proved to be an old male in full plumage. We had a long look at the bird, which was busily feeding about thirty yards from the foot of the embankment, constantly diving, and each time, on the average, remaining under water for twenty-five or twenty-six seconds. What was this old male scaup doing in the Humber so late in the season, long after the departure of its comrades for their northern summer haunts? I have frequently observed late in spring old male scaups in full plumage on the Humber, but never before so late as the 24th of May.

Swift.—Notices have appeared in the 'Zoologist' remarking on the scarcity of swifts during the summer of 1864; Dr. Boulton particularly remarks on their decrease in the neighbourhood of Beverley. I cannot say there is any marked diminution in the number which frequent this district. The old tower of Grimsby Church has long been a favourite nesting-place for swifts, and seldom a day passes, when at home during the summer months, without my seeing some of these birds hawking over the marshes. It is a very curious fact that the swifts should have deserted the ancient town of Beverley, a place apparently so well adapted for their habits. Probably for some cause or other they may have been induced to change their quarters, and after all there may not have been any real decrease in their numbers throughout the country, but only in certain localities. Last year I saw great numbers of swifts when staying for a few weeks at the sea-side, near Bridlington Quay, which place is not more than twenty miles in a straight line from Beverley. These birds might be daily seen from morning till night hawking backwards and forwards over the Esplanade and about Fort Hall. I did not think at the time that the mention of these swifts would have been of sufficient interest to the readers of the 'Zoologist,' or I should have made some attempt to ascertain their numbers. From what I remember, however, there certainly could not have been much less than thirty or forty pairs in this locality, and I recollect very well making the remark that I had never before, in any other place, seen so many swifts together on the wing.

White Rook.—A white, or rather creamcoloured, rook was taken a few weeks since out of a rookery in this neighbourhood, at Killingholme Manor. The entire plumage of this bird was cream-colour, the beak and legs yellow.

Fieldfare.—I saw a considerable flock of fieldfares in this parish on the 2nd of May, and a solitary bird on the 4th.

Spotted Flycatcher.—A pair of these little birds, which have now for many summers frequented a pear tree trained against the side of my house, did not this year make their appearance before the 24th of May. A friend informs me, however, that a pair of flycatchers, which have for twelve years built in a similar situation against the side of his house, returned to their old haunts on the 4th of May. This is unusually early for them to appear in North Lincolnshire.

Arrival of Summer Migrants during the Month.—May 2nd, whitethroat; 3rd, whinchat; 6th, garden warbler and swift; 7th, sedge warbler.

John Cordeaux.

Great Cotes, Ulceby, Lincolnshire,
June 2, 1865.

Dates of the Oviposition of Birds in the Neighbourhood of Marlborough in 1865.—The following observations on the oviposition, &c., of birds in the neighbourhood of Marlborough, were made by the under-mentioned Members of the Marlborough College Natural History Society, and are kindly communicated to the 'Zoologist' by the Rev. T. A. Preston:—

Kestrel. April 21. J. W. Parrington.
Sparrowhawk. April 26. C. E. Lawson.
Tawny Owl. April 11. R. C. Davis.
Redbacked Shrike. Seen, April 10. J. Pole.
Missel Thrush. April 8. W. R. Carles.
Song Thrush. April 3. W. W. Melville.
Blackbird. April 10. E. H. Carr.
Ring Ouzel. Seen, April 16. A. Armstrong.
Hedge Sparrow. April 12. W. Blaker.
Redbreast. April 11 (hard-set). P. S. Robinson.
Redstart. April 28. R. C. Davis.
Whinchat? April 26. F. Kingsford.
Common Whitethroat. May 2. H. Chester.
Lesser Whitethroat. May 1; nest ready; no eggs. A. C. Almack.
Great Tit. April 27. R. C. Davis.
Blue Tit. April 24. R. C. Davis.
Longtailed Tit. April 24. G. A. Wright.
Pied Wagtail. April 27. M. Ward.
Sky Lark. April 20. J. W. Parrington.
Blackheaded Bunting. May 5. P. S. Robinson.
Yellowhammer. April 17. W. W. Melville.
Chaffinch. April 15. W. W. Melville.
House Sparrow. April 17. W. W. Melville.
Greenfinch. May 3. R. C. Davis.
Hawfinch. May 3. H. F. Boyd and E. H. Carr.
Common Linnet. April 26. E. H. Davis.
Starling. April 24. L. C. Calley.
Jackdaw. April 11. J. Pole.
Magpie. April 8. H. W. Hockin.
Jay. April 26. P. S. Robinson.
Common Creeper. April 28. R. C. Davis.
Common Wren. May 3. R. C. Davis.
Nuthatch. April 28. R. C. Davis.
Cuckoo. Heard, April 8; seen, April 12. P. S. Robinson. Young bird, May 3. W. W. Dayman.
Swallow. First seen, March 28; next noticed April 2. E. G. Bevan.
Swift. Seen, April 27. H. W. Hockin.
Ring Dove. Eggs, March 10; young birds, March 22. J. H. Lambert.
Stock Dove. April 11. R. C. Davis.
Peewit. April 18; hard-set eggs, April 20. J. W. Parrington.
Land Rail. Heard, April 26. H. P. Lee.
Moorhen. April 13. P. S. Robinson.
Dabchick. April 29. J. W. Whitaker.
Herring Gull. Seen, April 23. W. R. Carles.

Notes on Birds in Carmarthenshire.—We have had here the severest and longest winter remembered; the snow was quite eighteen inches deep on the level twice, and it laid on the mountains from the middle of January to the end of March; the first spring-like day we had was the 30th of March; since then we seem to have had it more like summer than spring; the nights have been frosty, but, with one exception, the frost has done no harm. The summer birds seem to have come all at once. I saw a chiffchaff on the 1st of April; heard several on the 4th. Heard a wryneck on the 6th of April; cuckoo on the 10th; willow wren, tree pipit and swallow on the 11th; blackcap on the 12th; wood wren and corn crake on the 20th; house martin on the

4th of May,—this is singular, as the swallows were early. I feel sure we have several kestrels to stay the summer: I only knew of one pair during the winter, but now there are four or five pairs building just round here. I think I told you the gray wagtail breeds here: one pair came regularly during the winter to our back door just after dinner, when they used to get some crumbs, &c.; since the fine weather they have not been so regular and are more shy: they are evidently intent on building, but I cannot find out where; I think in a stone wall just below this house and by a little stream. I have asked several to get me the nest and eggs of the dipper; they are pretty common birds here. I took a pair of tawny owls' eggs last week. From what I hear I believe the merlin breeds near here; I intend going to see if they do: I think I shall see it, as I have offered a good price to any one who will show me the nest. Chiffchaffs and wood wrens (or warblers) seem more numerous and generally distributed than I noticed them in England; and there are not many more willow warblers—they are decidedly less numerous than at home. Of course we have no nightingales, and there are but few blackcaps. I am not sure if we have the garden warbler. Larks are much less numerous than with us. I have, however, heard the wood lark singing in every month since I have been here; it is called the "mountain lark": during the severe weather, in February, a little flock of five birds came for several days into the farm-yard; they generally kept by themselves, and were very tame: we had no sky larks here at that time. I never remember seeing the birds generally suffer so much as they did then. Blackbirds and thrushes were continually in the cattle-yards: one day in particular the rooks swarmed in the yards; they came within five or six yards of the men at work, and when I walked towards them they only just went out of the way: when the poultry woman fed the fowls she could not keep them away without a boy to stand at the opposite end of the feeding-place; if one by chance found anything eatable four or five would be sure to pitch into him, so that the poor wretch was glad to be off. About the same time I had four men moving some earth in the stack-yards here, when three pairs of stonechats kept close round them, and if a worm was seen down they came upon it within a foot of their spades, just as you often see the redbreasts. Magpies are very common, and are quite birds of omen: the women when they see one or two, will stop at once, and watch which way they fly and how, so that they may see if they are to be lucky or not for that day. Carrion crows, too, are very common, and are most certainly unlucky birds; I do not think I shall be far wrong if I say they kill hundreds of mountain lambs yearly. Starlings come with the cold weather and leave with it; we had immense flocks during the winter, but they are all gone now. We had very few woodcocks this season; I went out several times, but never saw more than three or four; I am told generally it is easy enough to find five or six couples.—*Thomas Dix; Llwynbedw, Kenarth, Carmarthen, May 5, 1865.* [Communicated by Henry Stevenson, Esq.]

Occurrence of the Roller off Yarmouth.—A very beautiful example of this rare and accidental visitant to our coast was taken alive on board a vessel off Yarmouth about the 25th of May, but died before the ship arrived in port. It was there purchased of the sailors for Mr. Sayer, one of our Norwich birdstuffers, who received the bird in the flesh on the 26th. I was sent for that evening to see it, but being away from home the bird had been stuffed before I examined it, on the 29th. It proved to be a male in perfect plumage, though in rather poor condition, the stomach containing only a minute fragment of a beetle's leg.—*H. Stevenson; Norwich, June 20, 1865.*

17 JY 65

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